

Remarks

This Application has been carefully reviewed in light of the Office Action mailed January 20, 2004. Applicants respectfully request reconsideration and allowance of all pending claims.

Claims 1-29 are Allowable over Nwabueze

The Examiner rejects Claims 1-29 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,611,839 to Nwabueze (“*Nwabueze*”).

Nwabueze merely discloses gathering and presenting information to help a client assess the success of a sales or marketing campaign or the popularity of a combination of goods or services. (Column 6, Lines 39-43). In *Nwabueze*, a data acquisition engine acquires data from various data sources consisting of varying data formats. (Column 7, Lines 43-50). According to *Nwabueze*, the acquired data could consist of varying types of web log files. (Column 7, Lines 43-48). A preprocessing engine then verifies the integrity of the acquired data. (Column 8, Lines 22-25). A data transforming engine then converts the preprocessed data from the various data sources and varying data formats to a uniform format and returns the processed data to a storage file. (Column 8, Lines 30-33). A data aggregating engine then organizes the processed data for presenting a desired report. (Column 8, Lines 52-55). A data presentation engine then displays the organized data as a report so that a customer can view or interact with the report or modify the format of the report to gain the most useful desired information. (Column 9, Lines 11-16).

In contrast, independent Claim 1 of the present application recites:

A system for optimization using multi-dimensional data, comprising:
a server operable to:

using a multi-dimensional data model, organize data stored at one or more data storage locations, the multi-dimensional data model including a plurality of data dimensions each including a hierarchy of members;

receive input from a user specifying a problem instance to be solved using an optimization engine, the problem instance specified by the user in a multi-dimensional format, the optimization engine being unable to solve the problem instance in the multi-dimensional format; and

communicate the problem instance in the multi-dimensional format; and

a transformation module operable to:

receive the problem instance in the multi-dimensional format;
transform the problem instance into a format appropriate for the optimization engine; and

communicate the transformed problem instance to the optimization engine to be solved.

Independent Claims 11, 20, and 29 of the present application recite certain limitations that are substantially similar to certain limitations recited in independent Claim 1.

To reject independent Claim 1, the Examiner asserts that the customer and the client in *Nwabueze* can be properly considered *an optimization engine*, the preprocessed data and the report in *Nwabueze* can be properly considered *a problem instance to be solved using an optimization engine*, and the data transforming engine in *Nwabueze* can be properly considered *a transformation module*, as recited in independent Claim 1. Applicants respectfully disagree with the Examiner.

The customer and the client in *Nwabueze* cannot be properly considered *an optimization engine*. Because *Nwabueze* clearly defines the customer and the client as being different from each other, they cannot both be properly considered *an optimization engine*. Moreover, *Nwabueze* in no way discloses, teaches, or suggests that the customer and the client can be properly considered an *engine*, as recited in independent Claim 1. In *Nwabueze*, the customer is merely “a company or organization that may need to capture information regarding its business units, its clients, its in-house operations, and related business transactions.” (Column 6, Lines 15-19). The client is merely a client of a company or an organization. *See Id.* Furthermore, even assuming for the sake of argument that the customer and the client could be properly considered an *engine*, *Nwabueze* would still fail to disclose, teach, or suggest that the customer and the client perform any *optimization*, as recited in independent Claim 1. In *Nwabueze*, the customer merely views or interacts with the report or modifies the format of the report. The client merely assesses the success of a sales or marketing program or the popularity of a combination of products or services.

Because *Nwabueze* fails to disclose, teach, or suggest *an optimization engine*, *Nwabueze* also necessarily fails to disclose, teach, or suggest, as recited in independent Claim 1:

- *receiving input from a user specifying a problem instance to be solved using an optimization engine;*
- *the optimization engine being unable to solve the problem instance in the multi-dimensional format; and*
- *transforming the problem instance into a format appropriate for the optimization engine; and*
- *communicating the transformed problem instance to the optimization engine to be solved.*

The preprocessed data and the report in *Nwabueze* cannot be properly considered *a problem instance to be solved using an optimization engine*. Because *Nwabueze* clearly defines the preprocessed data and the report as being different from each other, they cannot both be properly considered *a problem instance to be solved using an optimization engine*. In *Nwabueze*, the preprocessed data is used to generate the report. Moreover, *Nwabueze* fails to disclose, teach, or suggest that the preprocessed data and the report are *to be solved* in any way. In *Nwabueze*, the preprocessed data is merely converted from varying data formats to a uniform format. The report is merely displayed to the customer so that the customer can view or interact with the report or modify the format of the report. Furthermore, even assuming for the sake or argument that *Nwabueze* disclosed that the preprocessed data and the report are *to be solved* in some way, *Nwabueze* would still fail to disclose, teach, or suggest that the preprocessed data and the report are to be solved *using an optimization engine*, as recited in independent Claim 1. In *Nwabueze*, conversion of the preprocessed data is performed by the transforming engine. Viewing, interacting with, or modifying the format of the report is performed by the customer.

Because *Nwabueze* fails to disclose, teach, or suggest *a problem instance to be solved using an optimization engine*, *Nwabueze* also necessarily fails to disclose, teach, or suggest, as recited in independent Claim 1:

- *receiving input from a user specifying a problem instance to be solved using an optimization engine;*
- *the problem instance specified by the user in a multi-dimensional format;*

- *the optimization engine being unable to solve the problem instance in the multi-dimensional format;*
- *communicating the problem instance in the multi-dimensional format;*
- *receiving the problem instance in the multi-dimensional format;*
- *transforming the problem instance into a format appropriate for the optimization engine; and*
- *communicating the transformed problem instance to the optimization engine to be solved.*

The data transforming engine in *Nwabueze* cannot be properly considered *a transformation module*. To be properly considered *a transformation module*, the data transforming engine would, as recited in independent Claim 1, have to:

- *receive the problem instance in the multi-dimensional format;*
- *transform the problem instance into a format appropriate for the optimization engine; and*
- *communicate the transformed problem instance to the optimization engine to be solved.*

In contrast, the data transferring engine in *Nwabueze* does not perform any of these functions.

Nwabueze fails to disclose, teach, or suggest that the data transforming engine *receives the problem instance in the multi-dimensional format*. *Nwabueze* instead discloses that the input to the transforming engine is the preprocessed data—consisting of various types of web log files—from various sources and varying formats. Applicants respectfully submit that web log files cannot be *solved*. As a result, the input to the data transforming engine cannot be properly considered *a problem instance to be solved using an optimization engine*. Moreover, because the data consists of varying formats, the data cannot be properly considered *the problem instance in the multi-dimensional format*.

Nwabueze also fails to disclose, teach, or suggest that the data transforming engine *transforms the problem instance into a format appropriate for the optimization engine*. *Nwabueze* merely discloses that the data transforming engine converts data from various sources and varying formats to a uniform format. Nowhere does *Nwabueze* even suggest that the uniform format is in any way *a format appropriate for the optimization engine*. Moreover, because *Nwabueze* fails to disclose, teach, or suggest *an optimization engine*,

Nwabueze also necessarily fails to disclose, teach, or suggest transforming the problem instance into a format appropriate for the optimization engine.

Nwabueze also fails to disclose, teach, or suggest that the data transforming engine communicates the transformed problem instance to the optimization engine to be solved. In *Nwabueze*, the data transforming engine merely returns data processed at the data transforming engine to a storage file. The data aggregating engine then organizes the processed data so that the data presentation engine can display the processed data to the customer. Nowhere does *Nwabueze* even suggest that the storage file or the data aggregating *solve* the processed data, much less perform any *optimization*, as recited in independent Claim 1. Moreover, because *Nwabueze* fails to disclose, teach, or suggest *an optimization engine*, *Nwabueze* also necessarily fails to disclose, teach, or suggest *communicating the transformed problem instance to the optimization engine to be solved*.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987); M.P.E.P. ch. 2131 (Rev. 1, Feb. 2003) (Quoting *Verdegaal Bros.*, 2 U.S.P.Q.2d at 1053). Moreover, “the identical invention must be shown in as complete detail as is contained . . . in the claim.” *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); M.P.E.P. ch. 2131 (Rev. 1, Feb. 2003) (Quoting *Richardson*, 9 U.S.P.Q.2d at 1920). Furthermore, “[t]he elements must be arranged as required by the claim.” *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990); M.P.E.P. ch. 2131 (Rev. 1, Feb. 2003) (Quoting *In Re Bond*, 15 U.S.P.Q.2d at 1566). As shown above, *Nwabueze* fails to disclose, either expressly or inherently, each and every limitation recited in independent Claim 1, as required under the M.P.E.P. and governing Federal Circuit cases.

For at least the above reasons, Applicants respectfully request reconsideration and allowance of independent Claims 1, 11, 20, and 29 and all their dependent claims.

**Independent Claims 30-32 are Allowable over the
Proposed Modification of *Nwabueze***

The Examiner rejects independent Claims 30-32 under 35 U.S.C. § 103(a) as being unpatentable over *Nwabueze*.

Independent Claims 30-32 recite certain limitations that, as Applicants have shown above, *Nwabueze* does not disclose, teach, or suggest. Independent Claims 30-32 are allowable for at least this reason.

In addition, Applicants respectfully submit that the rejection of independent Claims 30-32 based on the proposed modification of *Nwabueze* is improper because the Examiner has not shown the required teaching, suggestion, or motivation in *Nwabueze* or in the knowledge that was generally available to those of ordinary skill in the art at the time of the invention to modify *Nwabueze* as proposed. The question raised under 35 U.S.C. § 103 is whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art at the time of the invention. Accordingly, even if all elements of a claim are disclosed in various prior art references, which is certainly not the case here as discussed above, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill at the time of the invention would have been prompted to modify the teachings of a reference or combine the teachings of multiple references to arrive at the claimed invention.

The M.P.E.P. sets forth the strict legal standard for establishing a *prima facie* case of obviousness based on modification or combination of prior art references. “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references where combined) must teach or suggest all the claim limitations.” M.P.E.P. § 2142, 2143. The teaching, suggestion, or motivation for the modification or combination and the reasonable expectation of success must both be found in the prior art and

cannot be based on an applicant's disclosure. *See Id.* (citations omitted). "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art" at the time of the invention. M.P.E.P. § 2143.01. Even the fact that references *can* be modified or combined does not render the resultant modification or combination obvious unless the prior art teaches or suggests the desirability of the modification or combination. *See Id.* (citations omitted). Moreover, "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. All words in a claim must be considered in judging the patentability of that claim against the prior art." M.P.E.P. § 2143.03 (citations omitted).

The governing Federal Circuit case law makes this strict legal standard even more clear.¹ According to the Federal Circuit, "a showing of a suggestion, teaching, or motivation to combine or modify prior art references is an essential component of an obviousness holding." *In re Sang-Su Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000)). "Evidence of a suggestion, teaching, or motivation . . . may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved." *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). However, the "range of sources available . . . does not diminish the requirement for actual evidence." *Id.* Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." *In re Mills*, 916 F.2d at 682, 16 U.S.P.Q.2d at 1432. *See also In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (holding a *prima facie* case of obviousness not made where the combination of the references taught every element of the claimed invention but did not provide a motivation to combine); *In Re Jones*, 958 F.2d 347, 351, 21 U.S.P.Q.2d 1941, 1944 (Fed. Cir. 1992) ("Conspicuously missing from this record is any evidence, other than the PTO's speculation (if that can be called evidence) that one of ordinary skill in the herbicidal art would have been motivated to make the modification of the prior art salts

necessary to arrive at” the claimed invention.). Even a determination that it would have been obvious to one of ordinary skill in the art at the time of the invention to try the proposed modification or combination is not sufficient to establish a *prima facie* case of obviousness. See *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1599 (Fed. Cir. 1988).

In addition, the M.P.E.P. and the Federal Circuit repeatedly warn against using an applicant’s disclosure as a blueprint to reconstruct the claimed invention. For example, the M.P.E.P. states, “The tendency to resort to ‘hindsight’ based upon applicant’s disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.” M.P.E.P. § 2142. The governing Federal Circuit cases are equally clear. “A critical step in analyzing the patentability of claims pursuant to [35 U.S.C. § 103] is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one ‘to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher.’” *In re Kotzab*, 217 F.3d 1365, 1369, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000) (citations omitted). In *In re Kotzab*, the court noted that to prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. See *id.* See also, e.g., *Grain Processing Corp. v. American Maize-Products*, 840 F.2d 902, 907, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988). Similarly, in *In re Dembicza*k, the Federal Circuit reversed a finding of obviousness by the Board, explaining that the required evidence of such a teaching, suggestion, or motivation is essential to avoid impermissible hindsight reconstruction of an applicant’s invention:

Our case law makes clear that the best defense against the subtle but powerful attraction of hind-sight obviousness analysis is *rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references*. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a

¹ Note M.P.E.P. 2145 X.C. (“The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references.”).

blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.

175 F.3d at 999, 50 U.S.P.Q.2d at 1617 (emphasis added) (citations omitted).

Applicants respectfully submit that the rejection of independent Claims 30-32 based on the proposed modification of *Nwabueze* is improper, under the M.P.E.P. and governing Federal Circuit cases, because the Examiner has not shown the required teaching, suggestion, or motivation in *Nwabueze* or in the knowledge that was generally available to those of ordinary skill in the art at the time of the invention to modify *Nwabueze* as proposed.

For at least these reasons, Applicants respectfully request reconsideration and allowance of independent Claims 30-32.

Conclusion

For at least the foregoing reasons, Applicants respectfully request full allowance of all pending claims.

If the Examiner believes that a telephone conference would advance prosecution of this Application, the Examiner is invited to call Christopher W. Kennerly, Attorney for Applicants, at 214-953-6812.

Applicants believe no fee is due. Nonetheless, the Commissioner is hereby authorized to charge any fee and credit any overpayment to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,
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